TEXAS DEPARTMENT OF INSURANCE

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PRODUCT EVALUATION Effective Date: June 1, 2012
RC-331

*The following product has been evaluated for compliance with the wind loads specified in the **International Residential Code (IRC)** and the **International Building Code (IBC)**. This product shall be subject to reevaluation **January 2016**.*

This product evaluation is not an endorsement of this product or a recommendation that this product be used. The Texas Department of Insurance has not authorized the use of any information contained in the product evaluation for advertising, or other commercial or promotional purpose.

This product evaluation is intended for use by those individuals who are following the design wind load criteria in Chapter 3 of the IRC and Section 1609 of the IBC. The design loads determined for the building or structure shall not exceed the design load rating specified for the products shown in the limitations section of this product evaluation. This product evaluation does not relieve a Texas licensed engineer of his responsibilities as outlined in the Texas Insurance Code, the Texas Administrative Code, and the Texas Engineering Practice Act.

Snap Lock Panels 1.5" (SL150), Mechanical Lock Panels 1.5"(ML150) and 2.0" (ML200), and Nail Strip Panel (1.0" NS100) Over Structural Sheathing, manufactured by

Quality Metals
210 W. Peden
San Antonio, Texas 78204
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will be accepted for use in areas along the Texas Gulf Coast when installed in accordance with the manufacturer's installation instructions and this product evaluation.

PRODUCT DESCRIPTION

Snap Lock Panel 1.5" (SL150): The snap lock panels are No. 24 MSG min. coated steel panels, 20 in. or 12 in wide, 1-1/2 high at female side rib. The panels are continuous over three or more clips with no end laps. A bead of sealant may be use at panel joints.

Mechanical Lock Panel 1.5" (ML150): The mechanical lock panels are No. 24 MSG min. coated steel panels with a maximum width of 16 inches and 1-1/2 high ribs. The panels are continuous over three or more clips with no end laps.

Mechanical Lock Panel 2.0" (ML200): The mechanical lock panels are No. 24 MSG min. coated steel panels, with a maximum width of 16 inches and rib height 2 inches. The panels are continuous over three or more spans. Endlaps are to overlap 6 inches. The panels may be physically curved at the radius of 110 ft. or greater. A bead of sealant may be used at panel ends and side joints. Side laps to be tightened and crimped with an electric crimping machine to a minimum 45 degree angle.

Mechanical Lock Panel 2.0" (ML200): Plywood and Rigid Insulation: The mechanical lock panels are No. 24 MSG min. coated steel Panels, with a minimum width of 16 inches 2 inches high at the female rib. The Panels are continuous over two (2) or more spans without end laps. The endlaps are to occur adjacent to purlins with panels overlapped 2 inches. A bead of sealant may be used at panel side ribs. Adjacent panels are to be seamed together along sides using an electric seaming toll with seams to be fully crimped. Seaming operations are to include Roof Deck Fasteners.

Nail Strip Panel (1.0): The nail strip panels are No. 29 MSG min. coated steel. The maximum panel width is 24 in. and the rib height a nominal 1 inch. The Panels are continuous over three or more spans. A bead of sealant may be use at panel end laps.

LIMITATIONS

Roof Framing: The metal roofing panels shall be installed over the following type of roof framing:

New Roof Framing Attachment: The roof framing shall meet or exceed the uplift requirements of the International Residential Code or International Building Code and shall be installed as required for resistance to wind loads.

Design Wind Pressures (All Products): The design pressure uplift load resistance 52.5 psf.

Roof Slope:

- **Snap Lock Panel 1.5" (SL150): Plywood:** The roofing panels may be installed on roofs with a roof slope as low as ½:12.
- **Mechanical Lock Panel 1.5" (ML150): Plywood:** The roofing panels may be installed on roofs with a roof slope as low as ½:12.
- **Mechanical Lock Panel 2.0" (ML200): Plywood and OSB:** The roofing panels may be installed on roofs with a roof slope as low as ½:12.
- **Mechanical Lock Panel 2.0" (ML200): Plywood and Rigid Insulation:** The roofing panels may be installed on roofs with a roof slope as low as ½:12.
- **Nail Strip Panel 1.0" (SL100):** The roofing panels may be installed on roofs with a roof slope as low as 3:12

Substructure:

- **Snap Lock Panel (1.5"):** Minimum 19/32" plywood roof deck.
- **Mechanical Lock Panel 1.5" (ML150):** Nominal ½" (15/32) plywood roof deck.
- **Mechanical Lock Panel 2.0" (ML200):** Plywood or OSB to be a nominal 5/8 inch thick. All butt joints to
- **Mechanical Lock Panel 2.0" (ML200): Plywood and Rigid Insulation:** Plywood or OSB to be a nominal 5/8 inch thick.
- **Nail Strip Panel (1.0"):** Plywood or OSB to be a nominal 5/8 inch thick**.**

INSTALLATION INSTRUCTIONS

General: The metal roofing panels shall be installed in accordance with the manufacturer's recommended installation instructions and this evaluation report.

Underlayment:

- **Snap Lock Panel (1.5"):** The underlayment used over plywood deck is to be 30 lb. organic felt. Sides overlapped minimum 2 inches, end laps per manufacturer's instructions. The felt is nailed to plywood deck with 1 inch long galvanized roofing nails located per the manufacturer's instructions. Nail spacing to be a maximum of 12 inches on center at the side lap and a maximum of 24 inches on center in interior rows.

- **Mechanical Lock Panel 1.5" (ML150):** One layer of 30 lb. felt fastened to the plywood deck per the manufacturer's instructions. Sides overlapped minimum of 2 inches, end laps per the manufacturer's instructions.

Attachment of Metal Roof Panels to the Roof Deck: The metal roofing panels shall be secured to the roof substrate in the following way:

Snap Lock Panel (1.5"): The panel clips are one piece assembly, 1-3/4 in. wide, 1-5/16 in high with a minimum thickness of 0.025 in. Clips are spaced 18 in. on center fastened to plywood deck. Fasteners used to attach panel clips to plywood deck to be No. 10-12 by 1 inch long pancake head Phillips drive, a point coated steel screw. A minimum of one (1) fastener per clip is required.

Mechanical Lock Panel 1.5" (ML150): One piece assembly, 1 inch wide, 1-5/8 inch high with a minimum thickness 0.0225 inch. Clips spaced 48 inches on center. Four (4) fasteners are required per clip. Fasteners used to attach panel clips to plywood deck to be No. 10-12 by 1 inch long, No. 2 Philips drive, wafer head plated steel wood screw.

Mechanical Lock Panel 2.0" (ML200): Either fixed or utility clips may be used. One piece assembly fabricated from No. 22 MSG minimum gauge steel, 3 inch wide. **Floating Clip** – two (2) piece assembly with a base fabricated from No.16 MSG minimum gauge steel, 1-5/8 in wide and a top fabricated from No. 22 MSG minimum gauge steel, 4-1/4 inch wide. The Clip Spacing is 60 inch on center maximum.

Mechanical Lock Panel 2.0" (ML200): Plywood and Rigid Insulation: Fasteners used to attach panel clips (Item 2) to plywood substructure or plywood decking is to be #12 Hex Head screws. The fastener length is to penetrate plywood deck by a minimum of 1/2 inch. Two (2) fasteners per clip are required.

Nail Strip Panel (1.0"): Panel attachment to wood deck: The fasteners are to be No. 10 x 1 in. long, No. 2 Phillips, pancake head, Type A, fasteners installed through pre-punched slots in the fastener flange of the panel. Panel attachment to plywood deck (to joists) fasteners to be minimum No. 6 x 1-7/8 bungle head screw or annular ring shank nails. The nail spacing is to be 6 inches on center at plywood edges and 12 inches on center at the intermediate supports.

Note: The manufacturer's installation instructions shall be available on the job site during the installation. All fasteners shall be corrosion resistant as specified in the International Residential Code (IRC), the International Building Code (IBC), and the Texas Revisions.